

Appl. No. 09/829,372
Arndt Dated March 17, 2004
Reply to Office Action of November 17, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claims 1-9 (Withdrawn)

10. (Currently Amended) A method comprising of preparing target compounds comprising:
- (a) removing a terminal protection unit one or more protecting groups from each protection group of a uni-chemo protected compound (UCP), wherein the UCP comprises:
- (i) a template molecule comprising two or more functional groups;
- (ii) protection groups chains attached to the two or more functional groups, the chains protection groups comprising one or more linearly bonded protection units protecting groups, wherein
- (a') a first protection group chain contains at least one protecting group protection unit; and
- (b') at least one other chain protection group contains more protection units protecting groups than the first protection group chain; so as to form at least one exposed functional group of the UCP that is not attached to a protection group; and
- (b) reacting the resulting at least one exposed functional group of the protected template with a first target group; and
- (c) consecutively repeating steps a) and b) to form the a derivatized template target compound.

11. (Currently amended) The method of claim 10, wherein the protection units protection group chains are linked by a C-X-C bond where X is NR, O, S, SiR₂, C≡C, O-SiR₂-O, PR, O-PO-O, O-PO₂-O, CONR, O-CO-O, NR-CO-O, NR-CO-NR, O-S(O₂), an orthoester, an acetal, a

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ketal or NR-S(O₂); and R is hydrogen, an alkyl, an allyl, an alkene, an alkyne, an aryl, or an alkoxy group.

12. (Currently amended) The method of claim 10, wherein the protection ~~group units~~ are linked by an amide bond.

13. (Currently amended) The method of claim 11, wherein the protection ~~group units chains~~ are linked by an amide bond.

14. (Original) The method of claim 10, wherein the wherein the functional groups comprise an amine, amide, hydroxyl, thiol, carboxylate group, or a mixture thereof.

15. (Withdrawn) The method of claim 10, wherein the template molecule is an oligopeptide, oligosaccharide or DNA molecule.

16. (Withdrawn) The method of claim 10, wherein at least one of the functional groups of the template molecule is attached to a resin.

17. (Currently Amended) The method of claim 10, wherein the template ~~molecule~~ comprises a solid substrate.

18. (Withdrawn) The method of claim 17, wherein the solid substrate comprises a glass.

19. (Original) The method of claim 17, wherein the solid substrate comprises a polymer comprising functional groups, wherein the functional groups comprise hydroxyl, carboxylate, amino, or combinations thereof.

Claims 20-47 (Withdrawn)

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48. (Previously presented) The method of claim 19, wherein the polymer comprises functionalized polyethylene, polypropylene, polystyrene, polycarbonate, polyacrylate, polyurethane, or Teflon.
49. (Withdrawn) The method of claim 15, wherein the template molecule is an oligopeptide comprising polylysine.
50. (Previously presented) The method of claim 15, wherein the template molecule comprises one or more amino acids having functional groups.
51. (Withdrawn) The method of claim 50, wherein the template molecule comprises lysine, alanine, glycine, or mixtures thereof.
52. (Withdrawn) The method of claim 51, wherein the template molecule comprises lysine and alanine.
53. (Currently amended) The method of claim 10, wherein the one or more protecting groups protection units are removed using chemical, electrochemical, or photolytic reactions.
54. (Withdrawn) The method of claim 10, wherein the protection group chains are unsubstituted or substituted oligomers of 2-amino benzoic acid.
55. (Withdrawn) The method of claim 10, wherein the protection groups chains are unsubstituted or substituted oligomers of (2-amino-phenyl)-acetic acid.
56. (Withdrawn) The method of claim 10, wherein the protection group chains are oligomers of *N*-(1-isopropyl-2-methyl-propylamino)acetic acid.
57. (Withdrawn) The method of claim 10, wherein the protection group chains are oligomers of *N*-(1-ethyl-propylamino acid).

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58. (New) The method of claim 10, wherein the terminal protection unit of each protection group is removed by a uniform reaction or a common set of chemical reactions.
59. (New) The method of claim 10, wherein removing the terminal protection unit of each attached protection group results in the formation of a shorter protection group by one protection unit.
60. (New) The method of claim 10, wherein the UCP is formed by reacting two or more templates together.
61. (New) A derivatized template formed by the process of claim 10.
62. (New) A method comprising
 - (a) preparing a uni-chemo protected compound (UCP) comprising:
 - (i) a template comprising two or more functional groups;
 - (ii) protection groups attached to the two or more functional groups, the protection groups comprising one or more linearly bonded protection units, wherein
 - (a') a first protection group contains at least one protection unit; and
 - (b') at least one other protection group contains more protection units than the first protection group;
 - (b) removing a terminal protection unit from each protection group of the uni-chemo protected compound (UCP), so as to form at least one exposed functional group of the UCP that is not attached to a protection group; and
 - (c) reacting the resulting at least one exposed functional group of the protected template with a first target group; and
 - (d) consecutively repeating steps a) and b) to form a derivatized template.
63. (New) A uni-chemo protected compound (UCP) produced by the method of claim 62, step (a).